

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2022-02-28 14:57:25
 Date of Next Testing: 2026-02-27 14:57:25
 Product Name: (S)-(+)-1,2,3,4-Tetrahydro-1-naphthylamine
 CAS Number: 23357-52-0
 Specifications & Purity: $\geq 99\%$, $\geq 98\%$ (ee)
 Lot #: B2223179
 SKU #: T113718
 Version: 1
 Analysis #: 065457
 Storage Temperature: Store at 2-8°C, Argon charged

Parameter	Limit Values	Result
Purity(Titration by HClO ₄)	98.5-101.5 (%)	98.96300 %
Refractive index n ₂₀ /D	1.562-1.566	1.56400
Specific Rotation [α] ₂₀ /D(c=1 CHCL ₃)	35-41 (°)	37.52000 °
Density (20°C)	1.036-1.04	1.03900
Purity(GC)	99-100 (%)	99.97000 %
Appearance (T113718)	colorless to brown liquid	colorless to brown liquid
Proton NMR spectrum	Conforms to structure	Conforms to Structure



John Su
QA & QC Manager